G. R. S. IX-5]

Previous references.

DCV 1914 Copy permission retained

File No. 193-14

1914.

Serial Nos. 1-25

(Gen. Mis.)

Later references.

Gen 66-18 Sh 154

GENERAL AND REVENUE SECRETARIAT.

Serial Nos.

Part B for april 1916

SUBJECT.

Invention for "Improvements relating to the extraction of base metal from ores & other materials" by the New Refractory Ores, Ltd.".

---

25. From Chief Engineer -

Acknowledges the receipt of the specification of —

DCV 1914

W D 88—GPB—50,000—24-7-16

G.R.S. 11] 1914-15.

GENERAL AND REVENUE SECRETARIAT.

(Gen : Mis)

NOTES.

Gen File No. 193 14/15

FILE HEADING.

Invention for "Improvements relating to the extraction of base metal from ore and other material" by New Refractory Ores Limited, Bussey Buildings, Commissioner Street, Johannesburg, Transvaal, assignee of Mr. William Holman James

From

Mr. R. Gundu Rao, Advocate, Bangalore

No. Dated 7. 9. 14 Received

Diary No. 214	Enclos. 2+Rs 11 Spare Copies.	Serial No. 1

BRIEF ABSTRACT OF LETTER.

Forwards an applⁿ for leave to file a specification of the above named invention and a power-of-attorney and also Rs 11/- as applⁿ + stamp fees therefor.

NOTES AND ORDERS.

Mr. William Holman James is the inventor, and he has assigned the benefits of the invention in favor of the applicants viz New Refractory Ores Ltd., but the Deed of assignment has not yet been filed. The erasures + corrections in the Power-of-attorney have not been attested. Drafts subd.

24 bw 25/9/14 2. Yours MBoy 28/9

NOTES—First Sheet.

GPB—35,000—15-6-12

General and Revenue Secretariat. | Geo File No. 693 of 1914. | 2

Serial No.	
2	To Mr. R. Gundu Rao, Bangalore. No. G 3508 dt 8-10-14 With refce to the above, states that the Specification has been forwarded to the State Geologist & requests that the Power-of-attorney may be attested and a Deed of Assignment furnished.
3	To the State Geologist. No. G 3507 dt 8-10-14. Forwards the Specification for opinion.
4	From the same. No. 689 dt 13.10.14 Acknowledges the receipt of the above. 3. The Report called for in Sl. 3 may be awaited Subd hrs 4. Yes. GA 20/1/15 Mor 20/1.
5	From the same. No 1531 dt 10-2-15 States that leave to file the Specification may be granted 5. The receipt of the Power of Attorney & the assignment deed refd to in Sl. 2 above may be awaited. Subd Mg hrs 6. Yes. 6/3/15 — Mor 6/3.
6	From Mr. R Gundu Rao. ~~dt 20.~~ 8-15 Forwards a duly executed Power-of-attorney as reqd in Sl 2. 7. The Deed of assignment has not been furnished. Draft subd GA hrs 8. Store 4/9/15 Mor 14/9

NOTE—Contn. sheet.

GPB—5,000—26-6-11

Serial No.	
7	To Mr. R. Gundu Rao No. C. 3926 & 17.9.15 Requests him to furnish the Deed of Assignment executed by the inventor to the New Refractories Ltd
8	From —do— Letter & 4.12.15 With reference to the above forwards a Sworn declaration from Mr. W.H. Jones of Johannesburg to the effect that he has ceded and transferred all his right, title & interest to the New Refractories Ltd and states that as it is not a Sworn Declaration no Stamp is necessary under the Laws of Mysore. Submitted 9. Instead of a Deed of Assignment that was called for a Sworn Declaration has been received. Branch III may be consulted as to whether the latter may be accepted without a Mysore Govt Stamp. 14/12/15 Br III 10. Rec'd 16 Dec 14/12/15 Br III Sen 14/12
	Subr. 17/12/15 11. An affidavit requires stamp duty under Article 4. 12 Under 55 of the Inventions and Designs Regulation, an inventor may apply for leave to file a specification. An inventor has been defined to include his assig

J Secn 762-15
W

NOTE—Contn. sheet.

GPB—20,000—30-6-15

Serial No.

The question is whether the company in the present case may be taken as the assignee or in other words whether there is sufficient proof of assignment. The affidavit may be taken as sufficient evidence of the fact. ~~Sd~~

Sd
4/1/16

BVL)

13 The Declaration should be returned to be stamped.

14. ⊗ The Power of Attorney also requires to be stamped both in the place of execution & the place of production - This shd. also be returned.

15. Some draft herewith

Sd
5/1-16

⊗ I consulted Mr Srini vasa Iyer abt. this & he has expressed his concurrence

Sd
5/1

16. With reference to my above note I am informed that a sum of One Rupee has been received from the Advocate for Stamp duty on the Power of Attorney & that the document ~~is to~~ will be sent to the Stamp Office for impress. —

17. There ~~is~~ remains the other question

NOTE—Contn. sheet.

GPB—20,000—30-6-15

Serial No.

of the Attestation of the Power of Attorney by a Competent Authority & the Stamp Duty on the Power in accordance with the local & Regulations at the place of its Execution. It is understood that the practice in the Case of such applications has been to accept the power filed without the formalities referred to & to file with such power in it is put up for reference. —

18. Opinion is requested as to whether the Power in the Case under disposal may be accepted as it is or whether it be valid it has to be returned to be Stamped & Attested in the Country of its Execution.

Br III.

7/1-16

19. In the goods of P. N. Alle. Adam (deceased) I.L.R. 23 Cal. 187 it was held that it is not necessary for the Courts in India to consider whether a power-of-attorney issued in England, but which is intended to operate

NOTE—Contn. sheet

GPB—70,000—17-12-15

General and Revenue Secretariat.

E. M. File No. 193 of 1914.

Serial No.

in British India complies with the fiscal requirements of the stamp laws in England and that it is sufficient if such power-of-attorney is stamped according to the stamp law of England. ~~British India~~ The present instance is similar to this case. Therefore if it is stamped ~~as~~ here according to Mysore law it is sufficient.

15/1/16 DRC

15/1

By V)

20. Submitted with a revised draft to M. R. Gundu Rao, as well as drafts to the Supdt of Stamps & the Dy: Comr Treasury dept Bangalore.

18/1/16

21. Issue

19/1-16

9 To. The Supdt of Stamps No: G 1040 & 22/16

Forwards the power of Attorney referred to in sl ~~No~~ 1 and requests him to impress the same with a Mysore General Stamp of the value of Rupee one & returned.

10 To, The Dy Comm Try Dept Bangalore.

No: G 1040 & 22/16 Forwards Rs 10/- receipt with sl 1 & requests acknowledgement

NOTE—Contn. sheet.

GPB—25,000—2-11-14

G. R. S. 12]

7

General and Revenue Secretariat.

File No. 193 of 1914.

Serial No.	
11	To. R. Gundu Rao, Esqr. G10410 & 2 1 With reference to Sl 8 states that the Sworn declaration is liable to a stamp duty of one rupee and therefore returns the document for being stamped and retransmitted.
12	From the Dy: Comr Treasury Deptt. Bangalore No-6 & 24/ Acknowledges receipt of the amount forwarded with sl-10.
13	From the Supdt of Stamps No. J-B222 & 25-1-16 Returns duly stamped the Power of Attorney forwarded with sl-9 above.
	22. The reply from Mr. Gundu Rao to sl-11 above will be awaited. Recd the 29/1/16 Yes LP 2/2-16
	23. Draft acknowledging the Power of Attorney received with sl-13 is put up for approval. Recd the 4-2-16 24. Done LP 5/2-16
14	To the Supdt of Stamps No. G 11172 & 7-2-16 Acknowledges the receipt of duly stamped Power of Attorney forwarded with sl 13

Sno

NOTE—Contn. sheet.

GPB—70,000—17-12-15

(8)

General and Revenue Secretariat. | G. M. File No. 193 of 1914.

Serial No.	
15	From Mr. R. Gundu Rao BA LLB Letter dt 28-2-16 Forwards the declaration returned with sl-11 above and states that the Stamp duty of Re-1/- has been paid on it to the Dy: Cmsr- Bangalore II and his endorsement obtained thereon and requests that the may be passed on the application of the "Nitro Refractory Ores Ltd" 25 The director of Mines & Geology is of opinn that the leave to file the specification may be granted. Vide sl-5 supra. 26 Drafts submitted for approval. Kuttoo Mem 29.2.16 First Member 29/2-16 Draft approved by the Member mrs 1.3.16. 8/3-16
16	To. The New Refractory Ores Ltd South Africa. No: G12745 dt 9-3-16 Authorizes the applicant to file a Specification of the said in invention in referred to in sl 1.
17	To. R. Gundu Rao. Esqr No: G12746 dt 9-3-16 Forwards the G.O. referred to in sl 1 and requests him to Communicate the fact to the party

NOTE—Contn. sheet.

General and Revenue Secretariat.

fm File No. 193 of 1914.

Serial No.	
18	From Mr. R. Gundu Rao, Advocate, Bangalore Letter dtd 22-3-1916 Forwards Rs. 30/- and four Copies of the Specification and requests that the Specn may be filed. Usual drafts submtd. The certificate at the foot of the Govt order may also be initialled Issued 24-3-16 27/3-16
19	To. The Treasury Officer, District Treasy Banga. No. G13587 dt 31-3-16 Forwards Rs 30/- being the fee for filing the above Specn & requests an acknt.
20	To. The Compiler. No: G13588 dt 31-3-16 Notifies the filing of an invention referred to in Sl:
21	To. R. Gundu Rao Esqr No. G13589 dt 31-3-16 Forwards a copy of the notification referred to in Sl 20 & requests to Communicate the ~~contents~~ fact of Sl 6 to the party Concerned
22	To. The Director, Mines & Geol. Chief Engineer Supdt Govt Museum. No. G13590-92 dt 31-3-16 Forwards for record copy of the Specification of an invention referred to in Sl: 1 & requests an acknowledgment.

Sno

NOTE—Contn. sheet.

GPB—70,000—17-12-15

G. R. S. 12]

General and Revenue Secretariat.

for File No. 193 of 1914.

Serial No.	
23	From the Supdt. Govt Museum No. 191 dt 6-4-1916
24	from the Director of Mines Geology No. 3177 dt 7.4.16
25	From the chief Engineer Mysore No. 4008 dt 23.4-16

Acknowledge receipt of the Specification forwarded with sl 22 above

Subd. The acknowledgment for the Bangalore St Treasury & Sl. 19 above will be awaited

Kedo 2/5/16

4/5-16

No acknowledgment has till now been received from the Bangalore St. Treasury.

To the Cash Section for duly noting whether the sum of Rs. 30/- sent to the Treasury with Sl-19 above has been acknowledged in the remittance register of this office.

Kedo 15/8/16

Rs 30/- was acknowledged in the Day: Remittance Register

Day: No. 41 dt 7-4-16.

17-8-16

17/8/16

Subd

The correspondence may now be filed

Kedo 23/8/16

NOTE—Contn. sheet.

GPB—70,000—17-12-15

Gen 193 - 14
81

Bangalore
7.9.1914.

The Registrar
General & Revenue Secretariat
Govt. Offices
Bangalore.

Sir

I beg to submit herewith an application with a specification under the Inventions and Designs Regulation on behalf of New Refractory Ores Limited, Bussey Buildings, Commissioner Street, Johannesburg, Transvaal, together with a power of attorney. I also beg to submit herewith Rs. 11/-. I request that necessary orders may be kindly obtained.

I beg to remain,
Sir,
Your most obedient
servant.
R Gundu Rao
Advocate

G. R. S. 26]

File No. 1/[illegible]

Serial No. 2

Diary No. of letter replied to 2121

No. Q 3508

General and Revenue Secretariat

( )

, *the* 191 .

To

R. Gundu Rao Esqre,

Advocate, Bangalore.

Date of issue 8. 10. 14

Signed by for Secy. R. Rao

Sir,

With reference to your letter of the 7th September 1914, forwarding an application from New Refactory Ores Ltd of Johannesburg, ~~the~~ Transvaal, for leave to file a specification of an invention for "Improvements relating to the extraction of base metal from ore and other material" by Mr. William Holman James, I am directed to state that the specification

over.

SUBJECT.

has been forwarded to the State Geologist for expert opinion under the Mysore Inventions & Designs Regulations.

2. I am however to return herewith the Power-of-Attorney received with your letter under reply and to request that the erasures and corrections therein made, may be got duly attested by the executants and the document returned to this Office.

3. The Deed purporting the assignment of the inventions in favor of the New Refractory Ores Ltd may also be obtained and furnished together with the stamp fee payable thereon under the Mysore Stamp Fees Regn.

I have &c,

Mysore 28/9

For the Secretary

List of enclosures,

Copied by

Examined by

GPB—25,000—4-3-13

From

Secy. to the Govt. of His Highness The Maharaja of Mysore, Genl. and Rev. Dept.

To

The State Geologist in Mysore.

Dated

Despatched 8.10.14

Received

General No. C 3507

No. fm 193-14-3.

ENCLOSURE NO.

Has the honor to forward herewith for report under Sec 6(2) of the Mysore Inventions and Designs Regulation XI of 1894, an application from New Refractory Ores Ltd of Johannesburg, Transvaal, for leave to file a specification of an invention for "Improvements relating to the extraction of base metal from ore or other material" by Mr. William Holman James

By Order,

Sd/-

2879

For Secretary

GPB—10,000—9-4-06.

D/11/10

GPB—1,000—13-2-14

M.G.D. 13]

MYSORE GEOLOGICAL DEPARTMENT.

DATED BANGALORE, 13th October 1914.

DIARY No. 3107

No: 689.

1914-1915
SECTION Gen: Mis
FILE No. 193—14
SER: L No. 4

FROM

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., etc.,
State Geologist in Mysore.

To

D.M. Narasinga Rao, Esquire, B.A.,B.L.,
Offg. Secretary to the Government, of His Highness
the Maharaja of Mysore, Gen. & Rev. Depts.

SIR,

I have the honour to acknowledge the receipt of a copy of an application from New Refractory Ores Ld. of Johannesburg, Transvaal, for leave to file a specification of an invention for 'Improvements relating to the extraction of base metal from ore or other material' by Mr. William Holman James, forwarded with your No.C.3507/G.M.193-14-3, dated 8th October 1914.

I have the honour to be,
Sir,
Your most obedient servant,

Registrar
State Geologist in Mysore.
for the Deputy Educational

C.N.

M.G.D. 13]

MYSORE GEOLOGICAL DEPARTMENT.

DATED BANGALORE, 04 Feb. 1915

No. 1531
Encl. one

DIARY No. 6958

9 14 75
Gen Mis
1939 4 75
5

FROM

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., etc.,
State Geologist in Mysore.

To

D.M. Narasinga Rao, Esquire, B.A.,B.L.,
Offg. Secretary to the Government of His Highness
the Maharaja of Mysore,Gen.& Rev.Depts.

SIR,

In reply to your docket No.G.3507/G.M.193-14-3,dated 8th October 1914, I have the honour to state that I have examined the specification of the invention for "Improvements ~~re~~ relating to the extraction of base metal from ore or other material" and am of opinion that the leave to file the specification may be granted. The invention appears to be novel and may possibly be useable.

2. The papers received with your letter under reply are herewith returned.

I have the honour to be,
Sir,
Your most obedient servant,

C.N.

State Geologist in Mysore.

A P P L I C A T I O N .

TO THE DEWAN OF MYSORE.

The Application of NEW REFRACTORY ORES LIMITED, a Company duly registered under the Company Laws of the Orange Free State, Union of South Africa, having offices in Bussey Buildings, Commissioner Street, Johannesburg, Transvaal, South Africa, for leave to file a Specification under Part I of the Mysore Inventions and Designs Regulation, 1894.

The Applicant Company is in possession of an Invention for "Improvements relating to the extraction of base metal from ore and other material", WILLIAM HOLMAN JAMES is the inventor thereof and the said Company is the owner under assignment from the same William Holman James, and to the best of our knowledge and belief the Invention is new within the meaning of Part I of the Inventions and Designs Regulation, 1894, and no circumstance exists which if the applicant is authorised to file a specification and files it in accordance with that Part, will disentitle the Company to an exclusive privilege thereunder in respect of the Invention.

A patent has not been applied for in the United Kingdom in respect to this invention.

The following is a description of the invention:-

This invention consists in a wet process for the extraction of base metal from ore or other material carrying it, in which process the solvent is formed by the electrolysis of a solution of a salt of a mineral acid, the said process usually including the regeneration and re-use of the original solution after the metal dissolved in the process has been recovered. The invention also consists in a process for the treatment of refractory precious metal ores by which the refractory constituent is removed from the ore, leaving the latter amenable to the usual extraction processes. A further part of the invention consists in special apparatus for carrying out the foregoing process.

According to this invention the electrolyte, consisting of an aqueous solution of a salt of a mineral acid is electrolyzed in an electrolyzer which enables the different solutions produced in the vicinities of the respective electrodes to be drawn off separately. Either such withdrawn solution may be employed as the solvent according to circumstances.

The material from which the base metal is to be extracted is treated with said solvent which is allowed to dissolve the base metal content of the same or that portion of the base metal content for which it has the greatest affinity and which it is desired to extract by this method. The solvent being then withdrawn from the material, its dissolved metal is, if of value, precipitated or recovered in any usual manner, or it may be precipitated by mixing with said solution the other solution which was withdrawn from the vicinity of the other electrode. Such mixing of

these two portions regenerates the original solution.

Preferably the process is operated continuously, that is to say the electrolyzed solutions are continuously separated and withdrawn from the electrolyzer so that they may be highly charged with the ions liberated by the current at the respective electrodes, and so that the solvent solution may be brought into contact with the ore as soon as possible and preferably whilst the contained active chemical agent is in a nascent state. The solvent is passed slowly through the material contained in a suitable vessel and continuously withdrawn therefrom and mixed with the other portion of the electrolyte, and the regenerated solution passed back to the electrolyzer thus making the process cyclic.

As a rule the acid electrolytic product which appears at the anode is used for treating the ore; but in some cases e.g. when arsenic is to be extracted, it is preferable to use the alkaline kathode product. Obviously in favourable circumstances, both the anode and the kathode products may be employed simultaneously for the separate treatment of their appropriate ores or materials.

The residue of the metal bearing material left after the extraction of the base metal or some of it according to this invention may still contain values of other metals and may be treated for the recovery of such other metal in any convenient manner. In particular, refractory precious metal ores, e.g. those containing copper, are treated by the method described for the extraction of the copper and/or other refractory constituent, whereby the residue is left amenable to the ordinary cyanide or other appropriate method for extracting its precious metal content.

Various salts of mineral acids may be used for forming the electrolyte, according to the material under treatment; but as a rule and particularly when refractory precious metal ores are to be treated, it is preferred to use sodium chloride.

The accompanying drawings illustrate diagrammatically apparatus for carrying out the process.

Fig. I shows a complete apparatus in its simplest form and Fig. II a modified form thereof.

1 is the vat or other suitable vessel for the metal bearing material. It is provided with a filter floor 2, or other suitable means for distributing solution into it. 3 is the electrolyzer provided with compartments 4, 5 separated by partition 6. The electrodes 7, 8 extend into the ends of pipes 9, 10. The part of the electrolyzed solution with which it is desired to treat the metal bearing material in the vat 1 is withdrawn from the electrolyzer by pipe 9. Said solution is distributed throughout the metal bearing material, as by upward percolation from the filter floor 2, and after contact with such material for the desired period the solution is withdrawn from vat 1 and may be passed to sump 11. To said sump 11 is also passed, by pipe 10, the part of the solution drawn from the vicinity of the other electrode of the electrolyzer. Mixture of the two solutions in sump 11 results in the precipitation of metallic contents extracted by the solution from the material in vat 1. The resultant neutral solution may be returned by pump 12 and pipe 13 to the electrolyzer 3. 14 is a source of supply of electrical energy to the electrolyzer 3.

In carrying the invention into effect, ~~it is preferred~~ the electrolyte, e.g. the sodium chloride solution is fed into the electrolyzer from the supply tank 15.

The current from source 14 ionizes the solution, and the portion of the latter in the vicinity of the anode is withdrawn in the nascent state by pipe 9.

The ore in vat 1, which may be a raw gold ore containing unaltered iron, copper or other metal, is attacked by the solution brought in by pipe 9. The base metals are dissolved and passed off in solution by pipe 16 direct to sump 11, as in Fig. I, or other suitable apparatus for the recovery of its metal value before it arrives at sump 11. Such apparatus is indicated in Fig. II by boxes 17, 18, 19 controlled by suitable valves 20.

In said sump 11 the solution meets with the sodium-containing solution passed from electrolyzer 3 by pipe 10. Mixture of these solutions tends, by neutralizing them, to precipitate any metal remaining in the solution which was passed through vat 1. The neutralized solution is thereafter passed by pump 12 and pipe 13 back to the electrolyzer 3 and the cycle is completed.

When sufficient of the refractory constituent of the ore in vat 1 has been dissolved out as above described, to render the gold amenable to the ordinary extraction processes, the circulation of the solution through vat 1 is stopped and the solution remaining in it is replaced by cyanide or other solution for the recovery of the gold. Said latter solution may be admitted by pipe 21. The pregnant cyanide or other solution may be made to leave the vat by pipe 16 and

the valves 20 which are so set as to cause it to pass through a suitable box, such as 17, containing zinc, aluminium or other substance for the precipitation of its gold contents.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:-

1. The process for the extraction of base metal from material containing the same which consists in electrolyzing a solution of a salt of a mineral acid, such as sodium chloride, withdrawing separately from the electrolytic circuit the respective electrolyzed solutions in the vicinities of the respective electrodes, separately passing one of such solutions, usually the anode product, to the metal bearing material and treating the latter therewith to dissolve base metal therefrom, and thereafter withdrawing the pregnant solution from the material.

2. The process of treating refractory precious metal ore, which consists in treating such ore according to the method of claim 1 for the removal of its refractory constituent and thereby leaving the ore amenable to the ordinary precious metal extraction processes.

3. The process for treating metal bearing material substantially as described with reference to the accompanying drawing.

4. The apparatus for carrying out the process claimed in claim 3 substantially as described with reference to the accompanying drawing.

We, EDWARD OLIVER HUTCHINSON, and WILLIAM HOLMAN JAMES, Directors, and LLEWELLYN ORLANDO LLOYD, Secretary of the above named NEW REFRACTORY ORES, LIMITED, therefore, apply for leave to file a Specification of the Invention pursuant to Part I of the Inventions and Designs Regulation, 1894.

Edward Oliver Hutchinson Director
William Holman James
Llewellyn Orlando Lloyd Secretary

The above named, do declare that the facts stated in this Application are true to ~~my~~ our knowledge, except as to matters stated on information and belief, and as to those matters we believe them to be true.

Dated this 28th day of July, 1914.

Edward Oliver Hutchinson
William Holman James Director
Llewellyn Orlando Lloyd
Secretary

NEW REFRACTORY ORES LTD.

S P E C I F I C A T I O N

TO ALL WHOM IT MAY CONCERN.

BE IT KNOWN THAT the NEW REFRACTORY ORES, Limited, a Company duly registered under the Company Laws of the Orange Free State, Union of South Africa, and having offices in Bussey Buildings, Commissioner Street, Johannesburg, Transvaal, South Africa, are in possession of an Invention for "Improvements relating to the extraction of base metal from ore or other material" and the said New Refractory Ores, Limited, do hereby declare the nature of the said Invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement thereof, that is to say:-

This invention consists in a wet process for the extraction of base metal from ore or other material carrying it, in which process the solvent is formed by the electrolysis of a solution of a salt of a mineral acid, the said process usually including the regeneration and re-use of the original solution after the metal dissolved in the process has been recovered. The invention also consists in a process for the treatment of refractory precious metal ores by which the refractory constituent is removed from the ore, leaving the latter amenable to the usual extraction processes. A further part of the invention consists in special apparatus for carrying out the foregoing process.

According to this invention the electrolyte, consisting of an aqueous solution of a salt of a mineral acid is electrolyzed in an electrolyzer which enables the different solutions produced in the vicinities of the respective electrodes to be drawn off separately. Either such withdrawn solution may be employed as the solvent according to circumstances.

The material from which the base metal is to be extracted is treated with said solvent which is allowed to dissolve the base metal content of the same or that portion of the base metal content for which it has the greatest affinity and which it is desired to extract by this method. The solvent being then withdrawn from the material, its dissolved metal is, if of value, precipitated or recovered in any usual manner, or it may be precipitated by mixing with said solution the other solution which was withdrawn from the vicinity of the other electrode. Such mixing of

these two portions regenerates the original solution.

Preferably the process is operated continuously, that is to say the electrolyzed solutions are continuously separated and withdrawn from the electrolyzer so that they may be highly charged with the ions liberated by the current at the respective electrodes, and so that the solvent solution may be brought into contact with the ore as soon as possible and preferably whilst the contained active chemical agent is in a nascent state. The solvent is passed slowly through the material contained in a suitable vessel and continuously withdrawn therefrom and mixed with the other portion of the electrolyte, and the regenerated solution passed back to the electrolyzer thus making the process cyclic.

As a rule the acid electrolytic product which appears at the anode is used for treating the ore; but in some cases e.g. when arsenic is to be extracted, it is preferable to use the alkaline kathode product. Obviously in favourable circumstances, both the anode and the kathode products may be employed simultaneously for the separate treatment of their appropriate ores or materials.

The residue of the metal bearing material left after the extraction of the base metal or some of it according to this invention may still contain values of other metals and may be treated for the recovery of such other metal in any convenient manner. In particular, refractory precious metal ores, e.g. those containing copper, are treated by the method described for the extraction of the copper and/or other refractory constituent, whereby the residue is left amenable to the ordinary cyanide or other appropriate method for extracting its precious metal content.

Various salts of mineral acids may be used for forming the electrolyte, according to the material under treatment; but as a rule and particularly when refractory precious metal ores are to be treated, it is preferred to use sodium chloride.

The accompanying drawings illustrate diagrammatically apparatus for carrying out the process.

Fig. I shows a complete apparatus in its simplest form and Fig. II a modified form thereof.

1 is the vat or other suitable vessel for the metal bearing material. It is provided with a filter floor 2, or other suitable means for distributing solution into it. 3 is the electrolyzer provided with compartments 4, 5 separated by partition 6. The electrodes 7, 8 extend into the ends of pipes 9, 10. The part of the electrolyzed solution with which it is desired to treat the metal bearing material in the vat 1 is withdrawn from the electrolyzer by pipe 9. Said solution is distributed throughout the metal bearing material, as by upward percolation from the filter floor 2, and after contact with such material for the desired period the solution is withdrawn from vat 1 and may be passed to sump 11. To said sump 11 is also passed, by pipe 10, the part of the solution drawn from the vicinity of the other electrode of the electrolyzer. Mixture of the two solutions in sump 11 results in the precipitation of metallic contents extracted by the solution from the material in vat 1. The resultant neutral solution may be returned by pump 12 and pipe 13 to the electrolyzer 3. 14 is a source of supply of electrical energy to the electrolyzer 3.

In carrying the invention into effect, ~~it is preferred~~ the electrolyte, e.g. the sodium chloride solution is fed into the electrolyzer from the supply tank 15.

The current from source 14 ionizes the solution, and the portion of the latter in the vicinity of the anode is withdrawn in the nascent state by pipe 9.

The ore in vat 1, which may be a raw gold ore containing unaltered iron, copper or other metal, is attacked by the solution brought in by pipe 9. The base metals are dissolved and passed off in solution by pipe 16 direct to sump 11, as in Fig. I, or other suitable apparatus for the recovery of its metal value before it arrives at sump 11. Such apparatus is indicated in Fig. II by boxes 17, 18, 19 controlled by suitable valves 20.

In said sump 11 the solution meets with the sodium-containing solution passed from electrolyzer 3 by pipe 10. Mixture of these solutions tends, by neutralizing them, to precipitate any metal remaining in the solution which was passed through vat 1. The neutralized solution is thereafter passed by pump 12 and pipe 13 back to the electrolyzer 3 and the cycle is completed.

When sufficient of the refractory constituent of the ore in vat 1 has been dissolved out as above described, to render the gold amenable to the ordinary extraction processes, the circulation of the solution through vat 1 is stopped and the solution remaining in it is replaced by cyanide or other solution for the recovery of the gold. Said latter solution may be admitted by pipe 21. The pregnant cyanide or other solution may be made to leave the vat by pipe 16 and

the valves 20 which are so set as to cause it to pass through a suitable box, such as 17, containing zinc, aluminium or other substance for the precipitation of its gold contents.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:-

1. The process for the extraction of base metal from material containing the same which consists in electrolyzing a solution of a salt of a mineral acid, such as sodium chloride, withdrawing separately from the electrolytic circuit the respective electrolyzed solutions in the vicinities of the respective electrodes, separately passing one of such solutions, usually the anode product, to the metal bearing material and treating the latter therewith to dissolve base metal therefrom, and thereafter withdrawing the pregnant solution from the material.

2. The process of treating refractory precious metal ore, which consists in treating such ore according to the method of claim 1 for the removal of its refractory constituent and thereby leaving the ore amenable to the ordinary precious metal extraction processes.

3. The process for treating metal bearing material substantially as described with reference to the accompanying drawing.

4. The apparatus for carrying out the process claimed in claim 3 substantially as described with reference to the accompanying drawing.

We, EDWARD OLIVER HUTCHINSON, and WILLIAM HOLMAN JAMES, Directors, and LLEWELLYN ORLANDO LLOYD, Secretary of the above named NEW REFRACTORY ORES, LIMITED, therefore, apply for leave to file a Specification of the Invention pursuant to Part I of the Inventions and Designs Regulation, 1894.

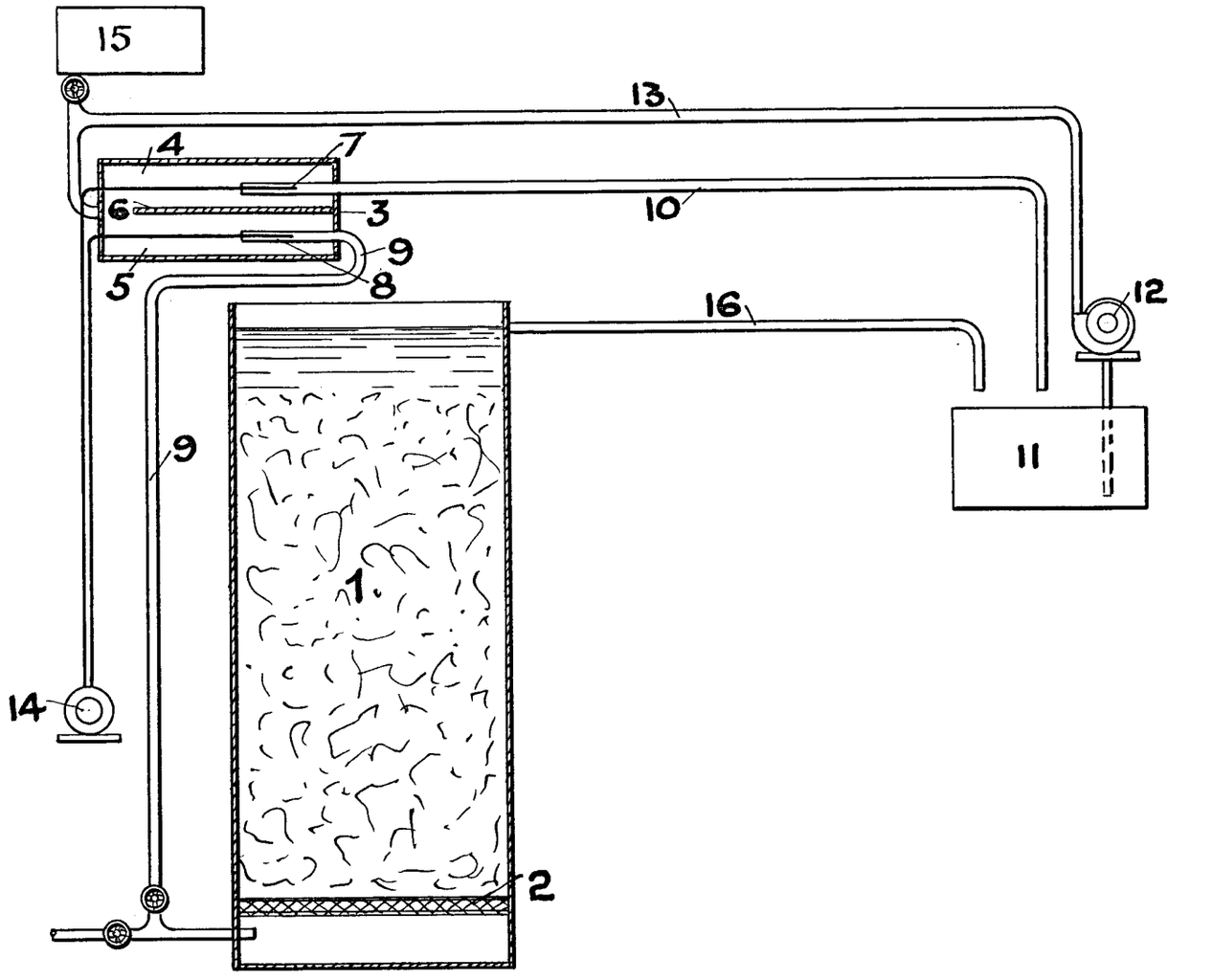
Edward Oliver Hutchinson
William Holman James
Llewellyn Orlando Lloyd Secretary

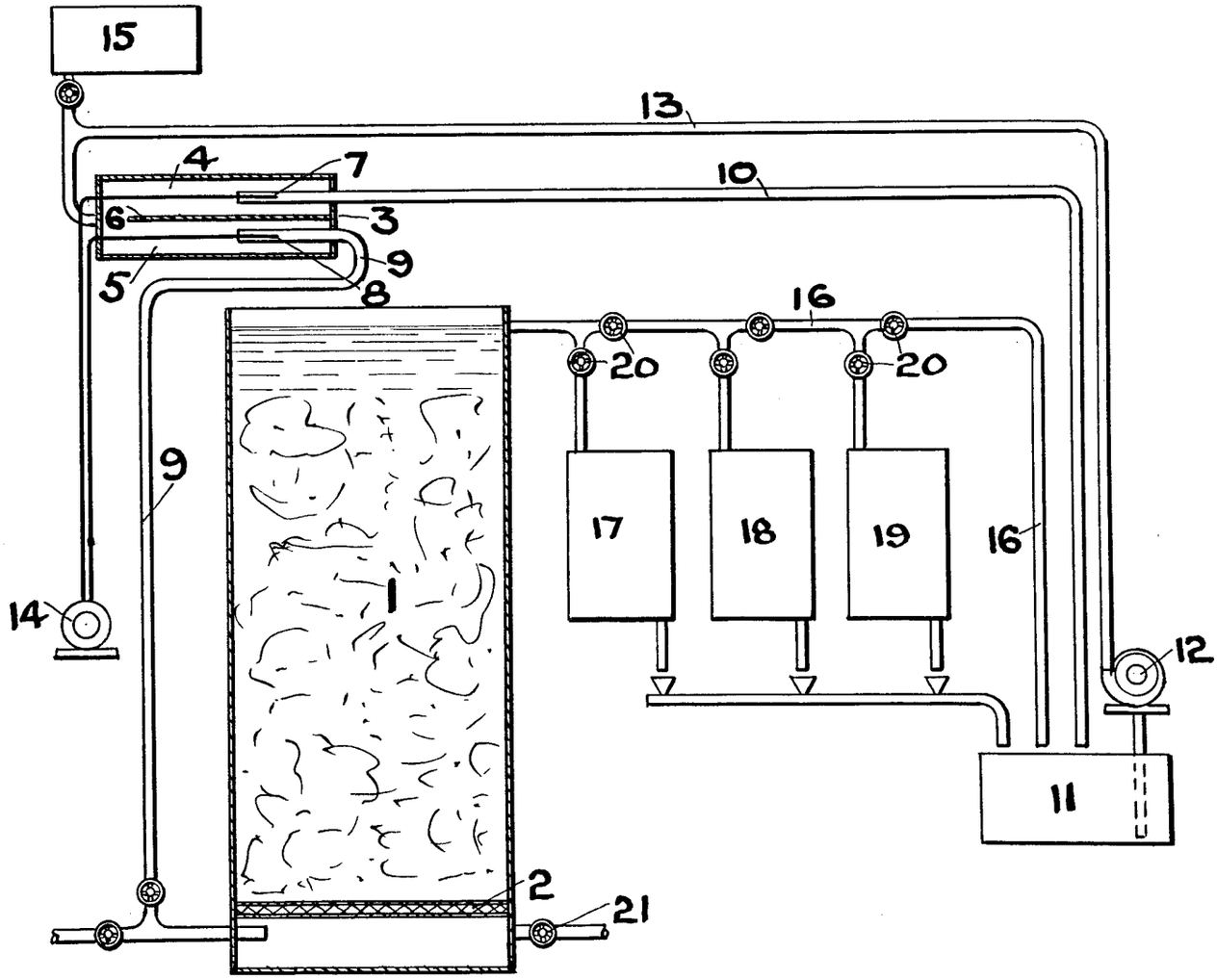
The above named, do declare that the facts stated in this Application are true to my knowledge, except as to matters stated on information and belief, and as to those matters we believe them to be true.

Dated this 28th day of July, 1914.

Edward Oliver Hutchinson
William Holman James
Llewellyn Orlando Lloyd
Secretary

NEW REFRACTORY ORES LTD.


15
13
4
7
6
3
10
9
5
8
16
12
11
9
1
14
2


15
13
4
7
10
6
3
9
5
8
16
20
20
9
17
18
19
16
12
14
1
11
2
21

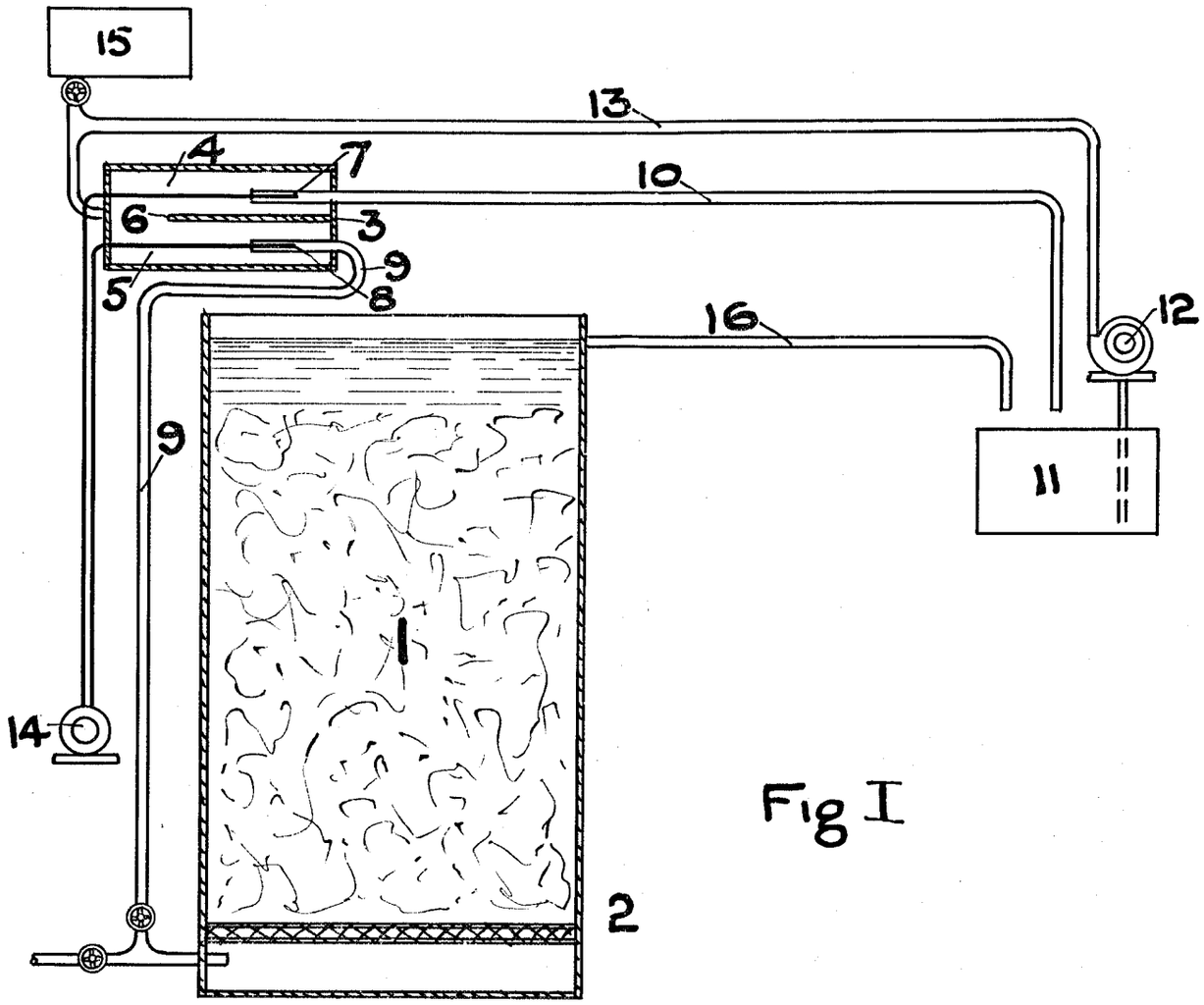

15
13
4
7
10
6
3
9
5
8
16
12
9
11
14
2

Fig I

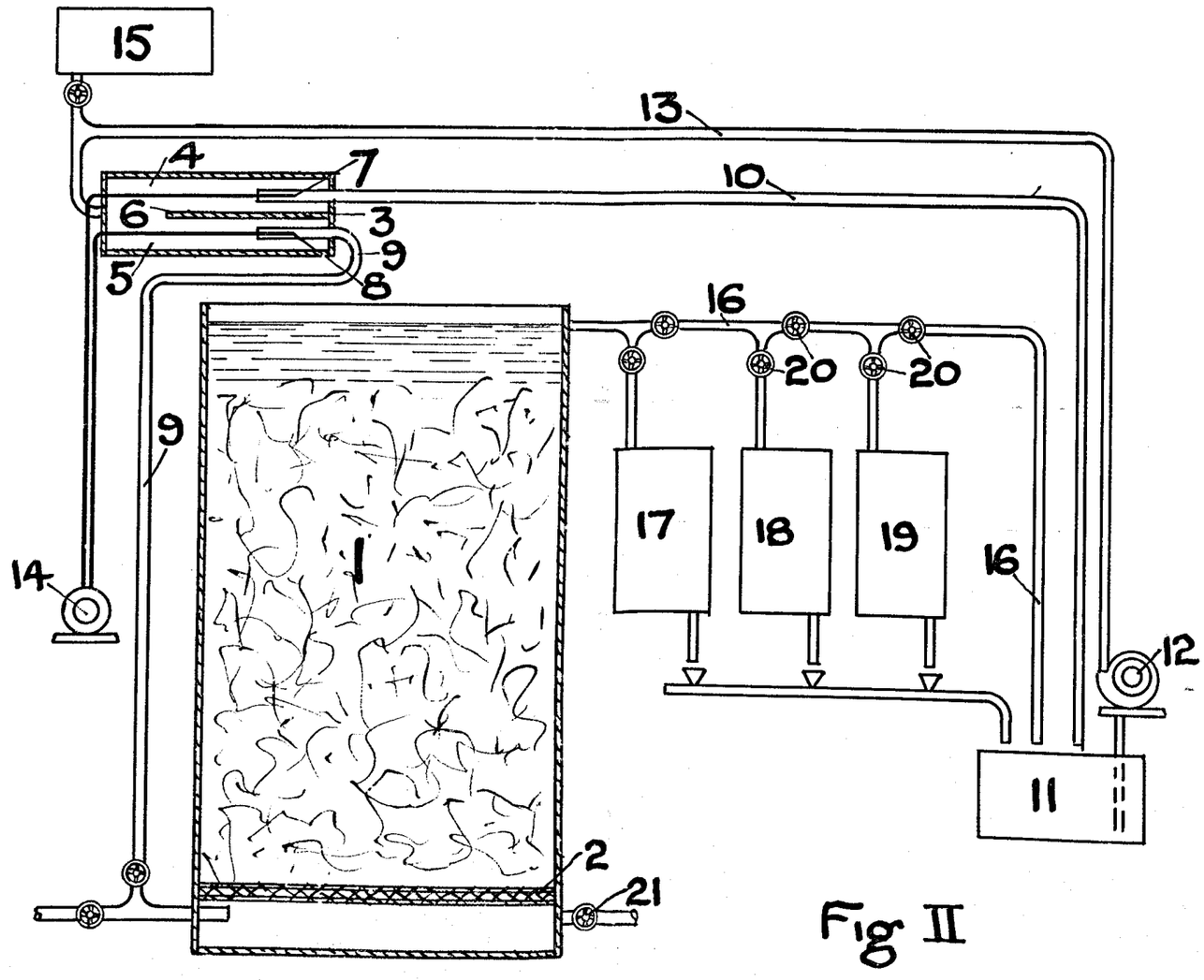

15
13
4
7
10
6
3
9
5
8
16
20
20
9
17
18
19
16
12
14
11
2
21

Fig II

Bangalore
30. 8. 1915.

V
Mcr 3018
2035

From
R. Gundu Rau B.A., LL.B.,
Advocate

To The Secretary
to the Govt. of Mysore
General & Revenue Depart-
ments.

1915-1916
Mysore Govt. Office
1934
No. 6

Sir

I beg to submit herewith the Power of attorney I received on behalf of New Refractory Ores, Ltd. in connection with their application Under the Mysore Inventions & Designs Regulation, as per your G. 3508 dt 8th October 1914.

I beg to remain,
Sir,
your most obedient
Servant
R. Gundu Rau
Advocate

G.R.S. 26]

SUBJECT.....

.....

.....

Diary No. of letter replied to 2035

General and Revenue Secretariat

( )

the 191 .

Date of issue 17.8.15

Signed by [illegible]

Section Gen : Mis

File No. 193 - 4

Serial No. 7

No. 6 3926

To

R. Gundu Rao Esqre,

Advocate, Bangalore.

Sir,

In acknowledging the receipt of the Power-of-Attorney forwarded with your letter of the 30th August 1915, re the applⁿ for leave to file a specification of the invention for "Improvements relating to the extraction of base metal from ore and other material" by New Reparatory Ores Ltd., I am directed

over.

9W/159

to invite your attention to this Office
letter to you No. G 3508/gm 193-14-2
dated 8th Oct. 1914, and to request
that the Deed executed by the inventor
Mr. William Holman James assigning
his rights to the New Refractory
Ores Limited, ~~no~~ therein called
for may be obtained and
forwarded to this Office, together
with the stamp fee payable
thereon. ~~money~~

I have &c,

MSR
14/9
for Secretary W.D.N.C.,
Gl. Dept

List of enclosures.

Copied by

Examined by

GPB—20,000—11-2-11

Bangalore
4. 12. 1915.

From

R. Gundu Rau B.A., LL.B.,
Advocate.

4872

To

The Secretary
to the Government of Mysore,
General Department.

Sir

With reference to your letter G. 3926 / G. Dis. 193-14 dated 17th September 1915, I beg to submit herewith a sworn declaration from Mr. W. H. James of Johannesburg to the effect that he has ceded & transferred to the New Refractory Ores. Limited, all his right, title & interest in the invention for which patent is applied for by the New Refractory Ores. Ld. As it is only a sworn declaration no stamp, it is respectfully submitted, is necessary under the laws of Mysore. I pray that the necessary orders regarding the application by the New Refractory Ores. Ld. may be passed, granting permission to file the Specification.

I beg to remain,
Sir,
Your most obedient Servant
R. Gundu Rau
advocate

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. ~~and Rev~~. Dept.

To

The Superintendent of Stamps
Bangalore.

Dated

Despatched 22-1-16

Received

General No. G 10408

No. G/M. 193-14-19

ENCLOSURE No. one and a Rupee

Has the honor to forward herewith a Power of Attorney executed by the New Refractory Ores Ltd., Johannesburg, appointing Mr. R. Gundu Rao, Advocate, as their Agent in respect of the invention for "Improvements relating to the extraction of base metal from ore or other material" and to request that the same may be impressed with a Mysore General Stamp of the value of Rupee one (herewith sent) and returned.

By order

For Secy to Govt
Genl Dept.

GPB—10,000—9-4-06.

Money order slip 24/1/16

G.R.S. 29A]

190 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Deputy Commissioner
Treasury Dept., Bangalore

Dated

Despatched 22-1-16

Received

General No. 9/0609

No. Gen. 193-14-10

ENCLOSURE No.

Has the honor to forward herewith a Sum of Rs. 10/- (Rupees ten only) received from Mr. R. Gundu Rao, Advocate, being the application fees for leave to file a specification of an invention for 'Improvements relating to the extraction of base metal from ore or other material' by New Refractory Ores Ltd, Johannesburg, and to request the favour of an acknowledgment for the receipt of the amount.

By order

For Secretary to Govt
General Dept.

GPB--10,000—9-4-06.

G. R. S. 26]

File No. 173-15

Serial No. 11

Diary No. of letter replied to .....

No. G 10 Bangalore

General and Revenue Secretariat

( )

, *the* 191 .

To

R. Gundu Rao Esq. B.A. L.L.B.,

Advocate, Bangalore city

Date of issue 22-1-16

Signed by Asst. Secretary

Sir,

With reference to your letter of 4th December 1915, I am directed to observe that a Sworn declaration, unless it is meant for the purpose of production in a Court is liable to a stamp duty of one rupee under article 5 of the Mysore Stamp Regulation of 1900.

I am therefore to return the

P.T.O. over.

SUBJECT.

document for being duly stamped and retransmitted.

I have &c

L.B.

For Secretary to Govt
General dept.

List of enclosures

Copied by

Examined by

GPB—20,000—10-10-14

4-(9)

6531

Rs 10/- Book No. 1096 393 No 6

Bangalore District **Treasury**, dated 24th January 1916

Received from Secretary to Government of Mysore
Several Department Bangalore.

Rupees Ten only 10

Annas ____ and Pies ____ being on account of

~~Fees for leave to file Specification of an invention for "Improvement~~
relating to the extraction of base metals from ores or other material
received with letter no: 10409 Dt 22nd January 16

Grn 193-14-10

Treasurer
In-charge of Treasury.
Bangalore District

To Bar

25-1-16 25/1

Stamp To]

No. 96222 OFFICE OF THE SUPERINTENDENT OF STAMPS IN MYSORE,
Enc. Power of Attorney Bangalore, Dated 25 1 1916

FROM
A. Krishnaswamy Rao ESQ., B.A., B.L.,
Superintendent of Stamps in Mysore

To
D. Narasinga Rao ESQ., B.A., B.L.,
Secretary to the Government
of Mysore General Department
Bangalore.

SIR,

I have the honor to return herewith duly stamped the Power of attorney received with your No. G 10408 dated Gen 193-14-9 22nd January 1916 and to request an acknowledgment.

I have the honor to be,
Sir
Your most obedient Servant
Illegible
Superintendent of Stamps in Mysore

GBPM—200—26-1-1915

POWER OF ATTORNEY.

In the matter of the Inventions and Designs Regulation, 1894, of the Government of Mysore and in the matter of NEW REFRACTORY ORES LIMITED, a Company duly registered under the Company Laws of the Orange Free State, Union of South Africa, having offices in Bussey Buildings, Commissioner Street, Johannesburg, Transvaal, South Africa.

The NEW REFRACTORY ORES LIMITED does hereby retain, constitute and appoint R. Gundu Rau, advocate, its Agent and Attorney to apply for and obtain from the Government of Mysore and keep in force an Exclusive Privilege or Letters Patent for "Improvements relating to the extraction of base metal from ore or other material" and it authorises to sign its name to such papers and writings and do such acts regarding the same, including the appointment of a substitute or substitutes, as may be necessary or expedient.

Dated this 23rd day of June, 1915.

Signed, Sealed and Delivered at)
Johannesburg in the presence of)

As Witnesses.
Alfred J. Coyle
Jno. Beachy Head

NEW REFRACTORY ORES LTD., by
W. Hoburn James
E. Mackinnon
Directors
P. H. Gilden
Secretary

G. R. S. 26]

GM. File No. 193-14
Serial No. 14

Diary No. of letter replied to 6637

No. G 11172

General and Revenue Secretariat
( )
, *the* 191 .

To

The Superintendent of Stamps

Date of issue 7-2-16

Signed by Mr. B. P. Rao

Has the honor to acknowledge the receipt of the duly stamped Power of Attorney forwarded with his letter No. I-B. 222 of 25-1-16

By order

For Secy to Govt.,
Asst Secretary

over.

SUBJECT.

Bangalore
28th Feb. 1916

DIARY NO. 7683

From

R. Gundu Rau Ba., L.B.,
Advocate
Bangalore

To

The Secretary to the
Government of Mysore
General Depth.

Sir

In re Your No G. 10410 / G. Sa. 193-14-11 dated 20th/22 Jan 1916

I beg to submit that the stamp-duty mentioned, x therein has been paid on the Sworn declaration in question, to the Deputy Commissioner, Bangalore District, and his endorsement obtained thereon. I beg to resubmit the declaration, and I pray that the necessary orders may be passed on the application of the New Refractory Ores. Ld' for patent.

I beg to remain,
Sir,
Your most obedient servant
R. Gundu Rau
Advocate

N E W R E F R A C T O R Y O R E S, L I M I T E D.

(Registered in the Orange Free State)

I, W I L L I A M H O L M A N J A M E S, of Johannesburg, solemnly and sincerely declare:-

That I have ceded and transferred to

NEW REFRACTORY ORES, LIMITED,

a Company registered under the limited liability Laws of the Orange Free State, all my right title and interest in and to an invention styled "IMPROVEMENTS RELATING TO THE EXTRACTION OF BASE METAL FROM ORE OR OTHER MATERIAL", for which a Patent is now being applied for by the said Company to the Government of Mysore.

W Holman James.

DECLARED before me at Johannesburg, this 15th day of September 1915.

E. Nuschmann

Justice of the Peace.

Certified that the Court Stamp Duty Rs. One
Rupee only has been levied on this document and credited into the
Central Treasury. Amount tendered by Mr. Gururao, Advocate
for Mr. W. Holman James of Johannesburg in
District Treasury No. 2700 dated 15.2.16.

Dy. Commissioner, Bangalore Distn.

15/2/16

RS

2015

G.M. 193-14-16.

No. G 12748-

GOVERNMENT OF MYSORE

General Department.

Register No. 3 **of 1914-15**

Bangalore, the 9.3.16 *190*

WHEREAS an application, dated the 28th July 1914 and received on the 7th September 1914, has been submitted under Section 5 of the Mysore Inventions and Designs Regulation, 1894, by New Refractory Ores Ltd., a Company duly registered under the Company Laws of the Orange Free State, Union of South Africa, having offices in Bussey Buildings, Commissioner Street, Johannesburg, Transvaal, South Africa, (hereinafter referred to as "the applicant") for leave to file a specification of an invention for "Improvements relating to the extraction of base metal from ore and other material"

.....

And whereas the applicant has duly complied with all the requirements of Section 5 of the said Regulation;

The Government of Mysore are pleased, under Section 6 of the said Regulation, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Regulation.

ORDERED, that the applicant be, and he is hereby, informed accordingly.

By Order of the Government of Mysore,

Draft)

8/3/16

~~For~~ *Secretary to the Govt. of Mysore,*
Gen. ~~and Rev.~~ Deptt.

Certified that the fees prescribed in the fourth schedule to the Mysore Inventions and Designs Regulation, 1894, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of Section 8 of the said Regulation on this the Twenty second day of March 1916.

Draft)

~~For~~ *Secretary to the Govt. of Mysore,*
Gen. ~~and Rev.~~ Deptt.

(Section 8 of the Inventions and Designs Regulation, 1894.)

(1) If within six months from the date of an order under Section 6, Sub-Sectn (1), or within such further time, not exceeding three months, as the Governmenf Mysore, in its discretion, may, on cause shown to its satisfaction and on paymenf the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applint causes a specification of his invention to be filed in manner by this Part, requid, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in the Territories of Mysore, and of authorizing others so to do, for a term of fourteen years from the date of the filing of the specification.

(2) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in Sub-Section (1), cease, if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege.

(3) If, nevertheless, in any case, by accident, mistake, or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Government of Mysore for an enlargement of the time for making the payment.

(4) Thereupon the Government of Mysore may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule, and subject to the following conditions, namely :—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months ; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

GPB—500—7-4-09.

G. R. S. 26]

GM. File No. 193-14
Serial No. 17

Diary No. of letter replied to 7683

No. G 12746/ank

General and Revenue Secretariat
( )
, *the* 191 .

To

R. Gundu Rao Esq. B.A. L-L.B.,
Advocate, Bangalore City

Date of issue 9-2-16

Signed by M. Bal Rao

Sir,

With reference to correspondence ending with your letter dated 28th Feb'16, I am directed to forward herewith G.O. No G 12745-91193-14-8 9th March 1916. authorizing the New Refractory Ores Ltd., of Johannesburg to file a specification of their invention for "Improvements relating to the extraction of base metal from ore & other material" and to request that the fact may

OT over.

SUBJECT.

be Communicated to the party Concerned.

I have &c

LD

Mr. to

For Secy to Govt.,
Jud. Dept.

List of enclosures

Copied by

Examined by

GPB—20,00—10-10-14

From

R. Gundu Rao, B.A., LL.B.,
Advocate.

Bangalore
22nd March 1916

To

The Secretary to the Govt. of Mysore
DIARY NO. 8400 General Department.

Sir

I beg to submit herewith the order of Government no. G. 12745 / G.W. 193-14-16 granting permission to the Deccan Refractory Ores Ltd. to file the Specification of their Invention. I beg to submit herewith Rs. 30/- the fees to be paid under the 4th Schedule of the Mysore Inventions and Designs Regulation. The necessary copies are also herewith submitted. I pray that the final orders may be passed.

I beg to remain,
Sir,
Your most obedient
Servant
R. Gundu Rao
Advocate

G. R. S. 26]

GM. File No. 193-16

Serial No. 19

Money order sent 7-4-16

No. G 13587/Rs 30.

Diary No. of letter replied to .....

General and Revenue Secretariat

( )

, *the* 191 .

Date of issue 31/3/16

Signed by Mr. B. C. Rao

To

The Treasury officer, District Treasury, Bangalore

Has the honor to forward herewith a sum of Rs. 30/- (Thirty) received from Mr. R. Gundu Rao, B.A., L.L.B., Advocate, Bangalore, being the fee payable under clause 2 of Schedule IV of the Mysore Inventions & Designs Regulation XI of 1894 for filing a specification of an invention for 'Improvements relating to the extraction of base metal from ore and other material' by New

Over.

SUBJECT.

4/4/16

New Refractory Ores Ltd. of Johannesburg and to request that the receipt of the amount may be kindly acknowledged

B. O.

Kindly

For Secy & Genl Genl. dept.

List of enclosures

Copied by

Examined by

GPE—20,000—10-10-14

MYSORE GOVT, GEN. & REV. SECRETARIAT,

No. G / 35'88 / G.M. 173-14-20 Dated Bangalore, 31/3/ 1906.

NOTIFICATION.

(PATENT.)

The following specification of an invention has been filed in accordance with Sections 8, 9, 10 and 11 of Regulation XI of 1894 (The Inventions and Designs Regulations) and is open to inspection at the Mysore Government Secretariat on application to the Secretary to the Government of His Highness the Maharaja of Mysore, General ~~and Revenue~~ Departments, and on payment of a fee of one Rupee.

By The New Refracting Ores Ltd., a Company duly registered under the Company laws of the Orange Free State, Union of South Africa, having offices in Bussey Buildings, Commissioner Street, Johannesburg, Transvaal, South Africa.

"Improvements relating to the extraction of base metal from ors and other material.

By Order,

For Secretary to Govt.,
Genl. dept.

To

The Compiler, *Mysore Gazette*, for publication.

No. G 135·89 / G.M. 193-14-21
Rue two

MYSORE GOVT. GEN. & REV. SECRETARIAT,

Dated Bangalore, 31/3/ 1916.

From

The Secretary to the Government of H. H. the Maharaja of Mysore,
General and Revenue Departments.

To

R. Gundu Rao Esq. BA-LLB
Advocate, Bangalore city

Sir,

With reference to your letter dated 22nd March 1916, I am directed to forward copy of a Notification No. G ~~69~~ 135·88 dated 31/3/16. issued by this Government in regard to the invention filed by you under Regulation XI of 1894 (The Inventions and Designs Regulations.) and to request that the fact may be communicated to the party concerned.

The order granting permission to file specification is herewith returned, with the certificate at foot, duly filled in and signed.

I have the honor to be,
Sir,
Your most obedient servant,

For Secretary to Govt
Genl. Deptt.

G. R. S. 26]

C.M. File No. 193-14

Serial No. 22

Diary No. of letter replied to .....

No. G 13590-92/mc

General and Revenue Secretariat

( )

, *the* *191* .

Date of issue 31/3/16

Signed by Mr B L Rao

To

The Director, Dept of Mines & Geology
Chief Engineer of Mysore
Supdt Govt. Museum

Has the honor to forward herewith for record in his office a copy of the Specification of an invention for 'Improvements relating to the extraction of base metal from ore and other material' by New Refractory Ores Ltd of Johannesburg and to request the favour of an ackt.

B. O.

Sd/-

for Secy to Govt.
Genl. dept.

over.

SUBJECT.

No. 191

Mysore Government Museum.

Bangalore. Dated 4th April 1916.

6th
DIARY NO. 8818

From

The Superintendent,
Government Museum.
Bangalore.

1915-16
G.M.
193-14
23

To

The Secretary to the Government of
His Highness the Maharaja of Mysore.
General Department.
Bangalore.

Sir,

I have the honor to acknowledge receipt of copy of a ~~copy~~ specification of an invention for "Improvements relating to the extraction of base metal from Ore and other material" by New Refractory Ores. Ltd. Johannesburg, forwarded with your docket No, G.12590-92/G.M.193-14-22, dated 31st March 1916.

I have the honor to be,
Sir,
Your most obedient servant,

~~Assistant~~ Superintendent.

1916

From

The Superintendent,
Govt. Museum
Bangalore

To The Secretary to the Govt.
of H.H. the Maharaja of Mysore
General Dept.

Dated 4th } April 1916 Bangalore
Despatched 6th }

Received

General No. 191
No.

Enclosure No. ——.

Acknowledges receipt of copy of a specification of an invention for "Improvements relating to the extraction of base metal from ore and other material by New Refractory ores &c."

D.M.G. 12]

GPB—2,000—23-3-15

No. 3177-

BANGALORE, 7th April 1916

FROM

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., &c.,
Director, Department of Mines and Geology,
Mysore State.

To

D.M. Narasinga Rao, Esquire, B.A.,B.L.,
Secretary to the Government of His Highness
the Maharaja of Mysore,
General Department.

SIR,

I have the honour to acknowledge the receipt of a copy of the specification of an invention for "Improvements relating to the extraction of base metal from ore and other material" by New Refractory Ores Limited of Johannesburg, forwarded with your docket No.G.13590-92/G.M.193-14-22, dated 31st March 1916, for record in this office.

I have the honour to be,
Sir,
Your most obedient servant,

W. F. Smeeth

Director,
Department of Mines & Geology.

C.N.

ADDRESS :
Statewoks.

No. 4008

MYSORE P. W. DEPARTMENT.
CENTRAL OFFICE,

Bangalore, 29th April 1916.

From Rajasabhabhushana
KARPUR SHRINIVASRAO, ESQ., B.SC., L.C.E., M.R.A.S.,
Chief Engineer of Mysore,
Bangalore.

To
D. V. Narasinga Rao, Esq., B.A., B.L.,
Secretary to Government of Mysore,
General Department, Bangalore.

Sir,

I have the honour to acknowledge with thanks, the receipt of a copy of the specification of an invention for "Improvements relating to the extraction of base metal from ore and other material" by Refractory Ores Limited of - - - Johannesburg, received with your letter No.G.3590-92/G.M. 193-14-22 dated the 31st March 1916.

I have the honour to be,
S i r,
Your most obedient servant,

R V Sundaramma
For Chief Engineer of Mysore.

J.R

MYSORE P. W. DEPARTMENT.

No.

From

THE CHIEF ENGINEER OF MYSORE,

Bangalore.

To

Dated Bangalore

Despatched

Enclosure No.

SUBJECT.